

CHAPTER 11: TRANSPORTATION

The transportation system is the framework upon which the city is built. A healthy transportation system can improve the economic, social and cultural conditions of the city and its citizens by providing efficient goods movement and options for people to get to and from work, home, school, shopping and leisure activities. Conversely, an inefficient, congested transportation system can be a deterrent to economic growth and can promote sprawling growth, resulting in inconvenience and stress for drivers, traffic accidents, increased trip length, loss of work time, and air pollution (more information on air pollution and air quality can be found in Chapter 18: Environmental Quality). This chapter presents a multi-modal transportation approach that includes all forms of surface transportation (auto, bus, rail, etc), as well as aviation activities, to support the City's mobility goals.

EXISTING CONDITIONS AND TRENDS

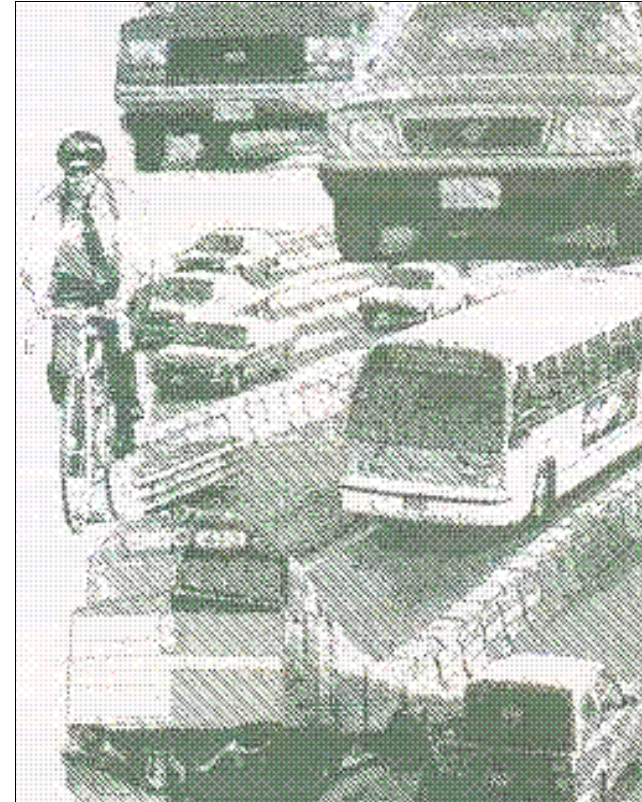
The North Central Texas Council of Governments (NCTCOG) Mobility 2025 Plan (2004 Update) estimates that the population of North Central Texas will grow to 7.9 million persons by the year 2025. This projection represents an increase of 4.5 million from the year 1999, reflecting a projected growth in population of over 75 percent in the region. Along with such growth comes increased transportation demands. The impact on air quality, congestion, land use, and infrastructure capacity all have to be considered together with these transportation demands.

According to a 1998 study conducted by NCTCOG, the annual cost of congestion is \$5.3 billion to residents and employers in the Metroplex. This figure could grow to \$13.4 billion annually by 2025 if transportation improvements are not made. In order to help address the potential impact of growth, NCTCOG has completed a multimodal transportation plan and air quality program for the region. The plan, Mobility 2025, provides a regional strategy for reducing congestion and improving air quality through policies aimed at improving travel demand management and transportation system management, expanding alternative transportation modes, and promoting sustainable development. The current plan was approved in January 2004 and became effective April 2004. The U.S. Department of Transportation determined that it met the requirements for an air quality conformity determination under the Clean Air Act. Over \$50 billion of planned improvements is recommended over the next 25 years. The plan undergoes periodic review in order to meet the changing needs of the region.

Fort Worth Mobility and Air Quality Plan

While the region's population is estimated to grow 75 percent by 2025, Fort Worth and the surrounding area is estimated to nearly double by 2030. With this in mind, the City Council identified improved mobility and air quality as one of seven strategic goals and in September 2003 approved the development of a Mobility and Air Quality (MAQ) Plan. The Plan is being developed in coordination with the Fort Worth Transportation Authority (the T) and is being conducted in three phases.

Components of a Balanced Transportation System



The City's transportation plan can provide mobility choices for residents by integrating all modes of transportation into a balanced system. (Source: North Central Texas Council of Governments, 2001.)

The City finalized Phase I of the plan, a Transportation Gap Analysis, in June 2004. Information was collected concerning land use, travel demand, and transportation infrastructure and services in the city and the region. The major findings include:

- Over 90 percent of population growth will be outside of Loop 820 in the form of low-density residential development.
- The majority of employment growth will occur within existing activity centers and along major highway corridors.
- The combination of the above two factors create increasingly complex travel patterns for the area.
- Growth patterns create longer commutes and additional burden on our future transportation system and air quality.
- The majority of choice transit riders are outside of the T's existing service area.
- Mobility needs of the area will not be met-even if the planned roadway improvements of the 2025 Mobility Plan are funded and constructed.

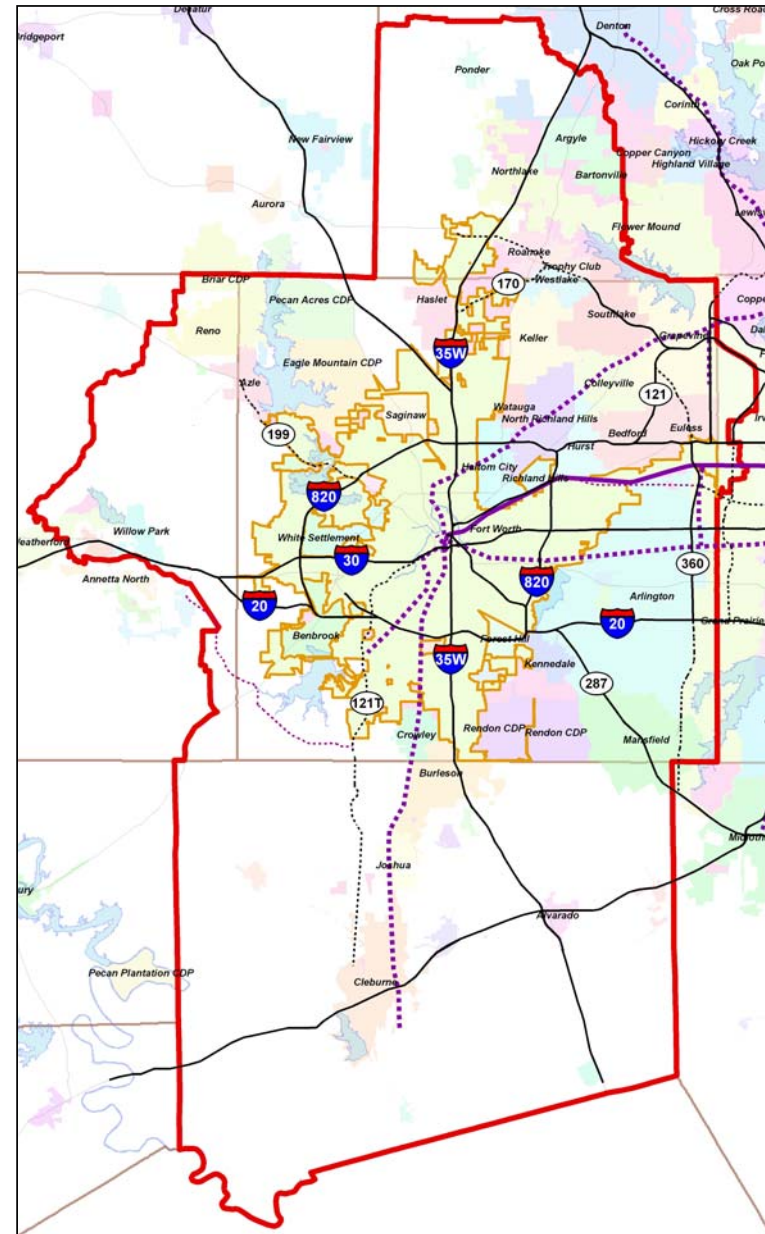
Phases II and III of the MAQ Plan will identify, analyze, and recommend transportation alternatives and provide a strategic implementation plan, including a financial and capital plan. The final product will be a comprehensive and multi-modal transportation system plan and a programmed effort to improve air quality. The anticipated completion date is fall 2007.

Roadway System

The City of Fort Worth maintains over 6,402 lane miles of street surface, including 908 linear miles of arterial streets, of which 484 miles are principal arterials and 424 miles are minor arterials. Development throughout the city is generating greater demand for street improvements to move traffic efficiently on the north-south and east-west major corridors. Citizens desire increased mobility, while maintaining pedestrian-oriented neighborhoods. Neighborhoods and commercial areas in the city are also requesting street improvements that include landscaping and sidewalks, as well as traffic mitigation measures to assist inner city areas with redevelopment. For a description of efforts aimed at addressing neighborhood transportation issues, see the Programs and Projects section of this chapter.

The Transportation Gap Analysis, which was completed in 2004, examined the current performance conditions of the roadway system and found that 8 percent of freeways and 3 percent of arterials in the study area are currently severely congested. The study projected that this severe congestion will increase to 40 percent of all freeways and 42 percent of arterials by 2030, even with the completion of all roadway projects in NCTCOG's Mobility 2025 Plan. Traffic congestion can have several causes: accidents, disabled vehicles, construction, exceeded roadway capacity, incomplete road networks, bottlenecks, linear or sprawling land use patterns, segregated land uses, lack of alternative modes of transportation, availability of parking, and low vehicle occupancy. The goal of the City's Mobility and Air Quality Plan is to address this future congestion through a multi-modal plan that will involve elements such as rail transit, public bus service, intelligent transportation

Transportation Gap Analysis Study Area



The City utilized a regional perspective to determine the study area for the Transportation Gap Analysis. The Gap Analysis was Phase I in the City's Mobility and Air Quality Plan. (Source: Transportation and Public Works Department, 2004.)

systems, bicycle and pedestrian transportation, transit-oriented development and sustainable development.

Maintenance of the city's existing street infrastructure is critical for the roadway system to function efficiently and at its intended capacity. An aging infrastructure, increasing number of traffic miles, and annexation of sometimes substandard streets require additional resources to ensure adequate maintenance. In the central city, maintenance of public alleys is particularly challenging. A recently completed pavement inventory and collection assessment rated 32 percent of the city's roads in 'excellent' condition, 28 percent in 'good' condition, 28 percent in 'fair' condition, and 12 percent in 'poor' condition. In 2004, the citizens of Fort Worth approved a bond package allocating \$65 million for the rehabilitation of 174 neighborhood streets.

In addition to maintenance, additional roadways are needed to improve the transportation system. The lack of network completion is most notable in far north and southwest Fort Worth. The rural roadway systems in these areas are being replaced with urban arterials as development occurs. This practice often results in arterial system gaps and bottlenecks. The intensity of existing land uses and new development in these corridors is creating pressure for the completion of road improvements to eliminate arterial gaps. Deficiencies in the roadway system are subjecting some areas of the city to increased congestion because streets do not adequately support existing or changing land uses.

A review of the roadway network shows that the hierarchy of streets is not clearly defined in many areas of the city, resulting in cut-through traffic invading neighborhoods. Some of the residential streets in the city are functioning as collector streets, rather than local streets, due to their excess right-of-way. The roadway system should provide the framework for a hierarchical system of freeways, arterials, collectors, and local streets.

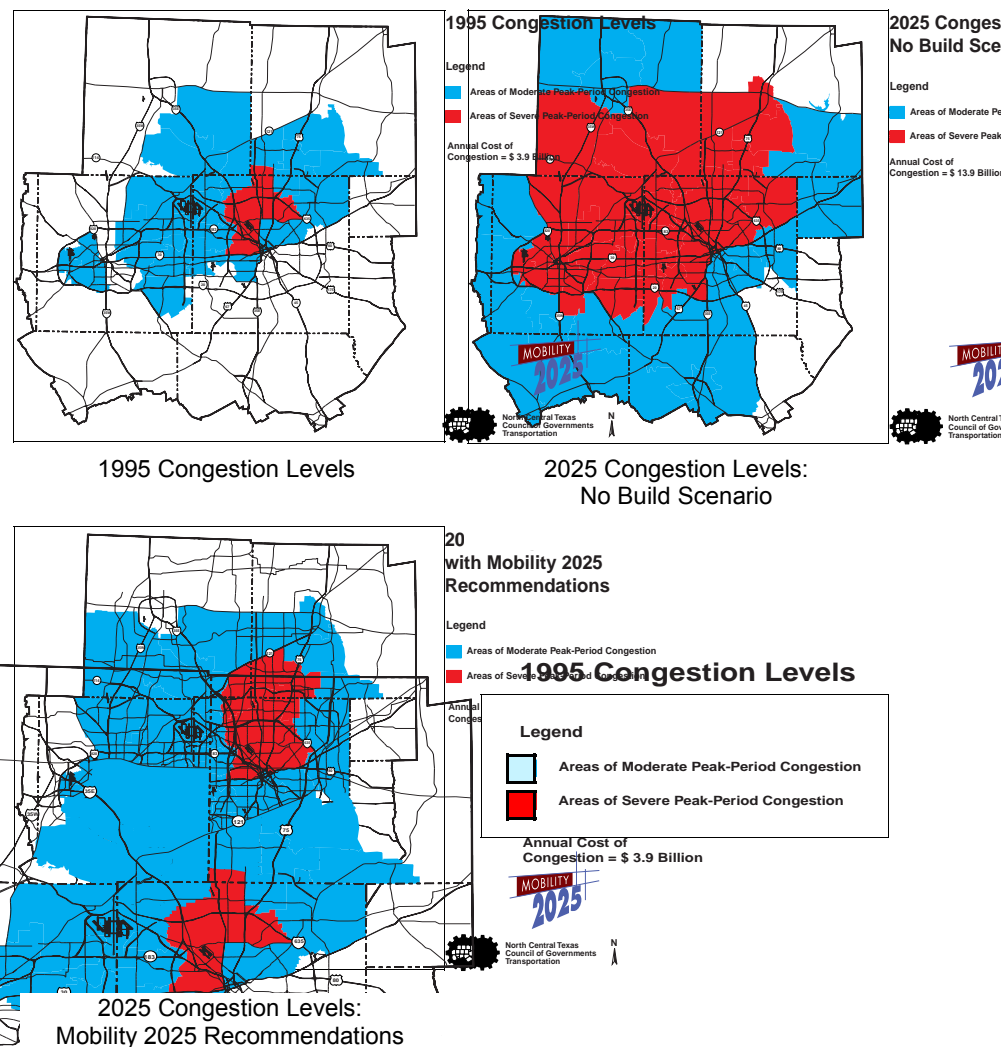
In order to help address many of these issues, the City has prepared a new Master Thoroughfare Plan (MTP) and associated Street Development Standards, which were adopted in 2002 and updated in 2004. Together, these documents provide comprehensive transportation standards for the street system within the city and its extraterritorial jurisdiction. The standards also recommend specific pavement cross sections for each street classification.

Public Bus Service

The Fort Worth Transportation Authority (the T) has provided public bus services since 1983, and its services have strengthened steadily over the years. In addition to Fort Worth, the T provides service to Richland Hills and Blue Mound. Ridership increased from 5.1 million in 1997 to just over 7.1 million in fiscal year 2005. The current bus service plan focuses on the stabilization of existing services and incremental service expansion.

Thirty-three bus routes cover the city and extend to the suburban city of Richland Hills. Six transfer centers are strategically located in destination areas: The Historic

Roadway Congestion: 1995 Levels and 2025 Forecasts



According to the North Central Texas Council of Governments, congestion levels in the region will continue to increase by 2025, but the impact will be lessened with needed improvements and a strategic approach to sustainable development. (Source: North Central Texas Council of Governments, 2001.)

Stockyards (NW 25th and Houston), East Fort Worth (E. Lancaster and Sargent), La Gran Plaza (formerly Town Center Mall), Ridgmar Mall, and two Downtown locations (Intermodal Transportation Center and T&P Vickery Boulevard park-and-ride lot). The transfer centers are integral parts of the transportation system. They provide central points for transfers between the various transportation modes.

The T's entire bus fleet operates with Compressed Natural Gas (CNG). It is the largest known 100 percent CNG-equipped fleet in the United States.

The T offers a number of additional services, including:

- Five Express Routes, which provide limited stop service to Downtown.
- Four routes that utilize the T's historic rubber-wheeled trolleys. These routes include service to the Fort Worth Zoo, the Stockyards, Pier 1, and RadioShack.
- Free Downtown service within a zone bounded by Henderson on the west, Jones on the east, Belknap to the north, and Vickery to the south.
- Rider Request Service (Route 41) within the City of Richland Hills provides curb-to-curb bus transportation within Richland Hills city limits. Riders may also use this route to access Downtown Fort Worth at specified times.
- The T's Employer Services Department (formerly Rideshare) provides information and assistance with carpools, vanpools, employer-subsidized transit (E-Pass), and other similar services.
- Guaranteed Ride Home Service is provided for all monthly or E-Pass holders.
- Bicycle racks on the front of all fixed-route buses.

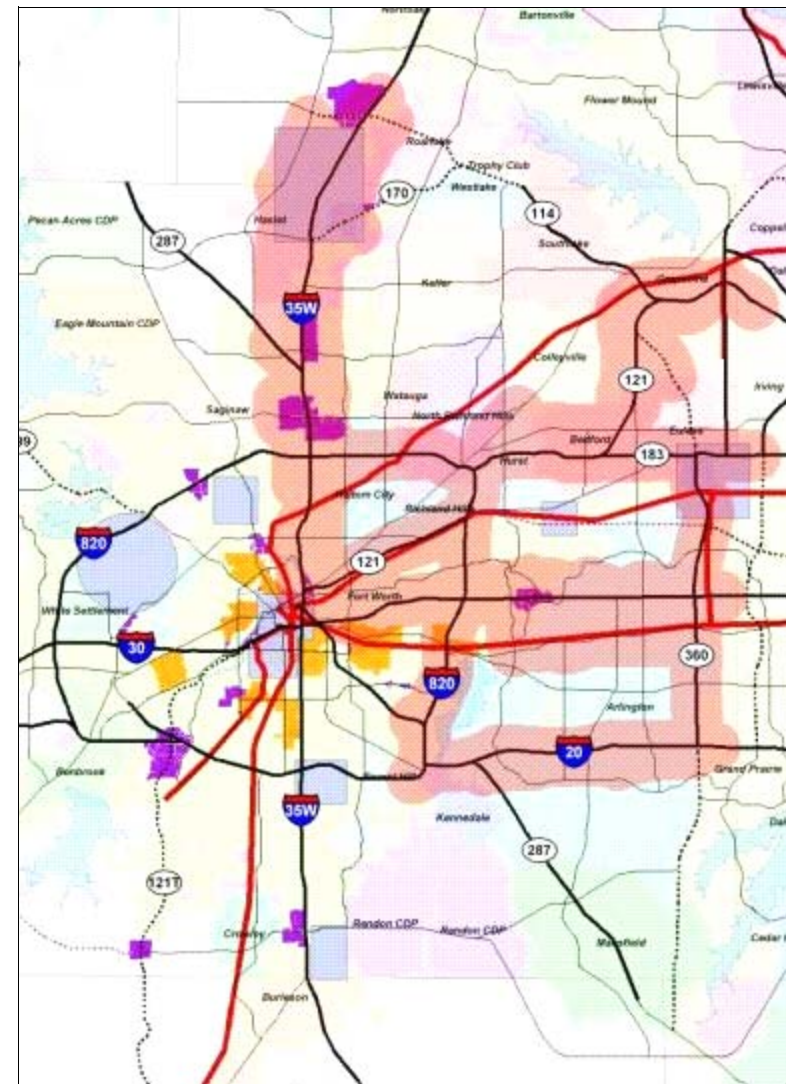
The T also provides Mobility Impaired Transportation Service (MITS) for residents who have disabilities that restrict them from using the regular fixed bus routes. MITS is door-to-door service that allows participants to schedule trips up to 14 days in advance. Riders who qualify for MITS will receive a MITS+1 card that allows them to use fixed-bus service for free.

Balancing public transportation costs, routes, and schedules with the needs of the transit-dependent population is an ongoing challenge. The T provides public transportation to major areas of employment, including Downtown, the Medical District, CentrePort, and area malls such as Hulen, Ridgmar and La Gran Plaza. As the city continues to expand, especially in the north and west, the T continues to study possible enhancements and additions to its service to allow all Fort Worth residents access to important employment growth centers. Continued cooperation and partnerships with the City, employers, and public agencies are critical to this effort.

There are over 1,800 bus stops in the T's service area. The T provides benches and passenger shelters at a number of these bus stops for the added convenience of its passengers. The goal is to place benches at frequently used stops and equally throughout the service area. Currently, there are over 350 benches in place.

Passenger shelters provide seating and protection from bad weather and are particularly important to senior citizens, parents with small children, and persons

Priority Corridors for Reducing Congestion



The Transportation Gap Analysis identified specific freeway corridors and supporting arterial networks where the greatest transportation deficiencies will be found, even with all the planned future roadway improvements in place. The goal of Phases II and III of the Mobility and Air Quality Plan will be to outline a multi-modal and financially feasible approach to addressing the above deficiencies. (Sources: Transportation and Public Works Department, North Central Texas Council of Governments, 2004.)

with disabilities. Although shelters are a popular amenity option at bus stops, only a limited number of shelters are feasible throughout the service area. To identify the most appropriate locations, the T uses a point system to prioritize and rank bus stops using factors such as daily boardings, existing land use, and the presence of a public facility or employment center among other criteria. There are currently over 100 shelters located throughout the T's member city area.

In 2005, the T began working with a Task Force of Downtown business and civic leaders and City of Fort Worth staff to redesign the fourteen passenger shelters along Houston and Throckmorton Streets. The Task Force's mission is to lead the effort to design, produce and install Downtown shelters that are both functional and aesthetically appealing.

T Strategic Plan

In October 2005, the T Board adopted a new Strategic Plan. The 12-month planning process resulted in a long-range strategy for public transportation in the region over the next 25 years. The T invited staff from the City of Fort Worth and NCTCOG to serve on the Planning Committee and guide the plan. An intensive public involvement process was developed to assure that the plan represented the region's future vision of public transportation in the western half of the Metroplex. In all, over 1000 comments were generated from focus group interviews, a Tarrant County wide household survey, stakeholder interviews, comment cards and public meetings.

The Strategic Plan presents the following six goals for the T:

- Enhance public transit
- Expand transit options for regional travelers
- Create a more seamless regional transit system
- Provide rapid travel options
- Support the sustainable development of the region
- Improve the perception of public transportation

The T will begin promoting the six goals of the Strategic Plan to the public and will incorporate the objectives and action items into its employee business plan. In the coming years, the T will report progress to the community and allow for additional public contribution.

Rail Transit

The Trinity Railway Express (TRE) commuter rail connects Downtown Dallas to Downtown Fort Worth. Downtown Fort Worth has two stations: the Intermodal Transportation Center at 9th and Jones Streets, and the T&P Terminal on Lancaster Avenue. Both terminals opened in January 2002. During fiscal year 2005, the TRE had just over 827,000 riders (T side only). The average daily ridership on the TRE is approximately 7,600 riders. The T, along with the Dallas Area Rapid Transit (DART), and NCTCOG, are collaborating on the development of a Strategic Plan for the TRE. When finalized, this plan may result in changes to the TRE's governance and/or operational goals.

Passenger Shelter



The T will replace all 112 existing shelters with the new aesthetically pleasing style shown above. The two-year phased replacement plan will begin in winter 2005. (Source: Fort Worth Transportation Authority, 2005.)

Intermodal Transportation Center



The Intermodal Transportation Center (ITC) in Downtown Fort Worth is home to the TRE commuter rail, a major bus transfer center, Amtrak, and Enterprise Rent-A-Car. A future Greyhound bus terminal will move to the facility by summer 2006. (Source: Planning Department, 2005.)

Mobility 2025 identifies potential rail corridors that could serve to expand commuter rail service throughout the region, including Fort Worth.

To study regional passenger rail options, NCTCOG conducted a Regional Rail Corridor Study (RRCS) and Regional Transit Initiative (RTI). Completed in fall 2004, the purpose of the RRCS and RTI respectively is to assess the feasibility of implementing passenger rail service along existing Metroplex rail corridors, and to develop a framework for how best to deliver these services financially, institutionally, and legislatively. The RTI began in January 2004 and was completed in fall 2004. The State Legislature will continue to discuss the RTI proposal during the 2007 session. The RRCS was completed in December 2004.

The City of Fort Worth is part of the RRCS western subregion and participated in evaluating the following rail corridors: W-1 or the Union Pacific (UP), W-2 which includes Fort Worth & Western and Cotton Belt, W-3, which is the existing Trinity Railway Express, and W-4 the Burlington Northern Santa Fe (BNSF). The RRCS recommended regional rail as the appropriate mode for these corridors as well as the double-tracking of the existing TRE line. The W-2 line stretches from Southwest Fort Worth through northeast Tarrant County and connects to the north end of DFW International Airport. The Cotton Belt on the W-2 line is a publicly-owned line (by DART) aside from a 2.5 mile portion just north of Downtown Fort Worth. The T is currently in negotiations with Union Pacific, the owner of the 2.5 mile portion, to purchase it. The Fort Worth & Western, also on W-2, connects Downtown through southwest Fort Worth to Hulen Street. The W-1 UP line connects Downtown Fort Worth eastward to Downtown Dallas, passing through the cities of Arlington and Grand Prairie. The W-4 BNSF line connects Downtown Fort Worth south to Cleburne. The W-2 and W-4 lines have limitations for converting to passenger rail use because they pass through Tower 55, the most congested rail line crossing in the western United States.

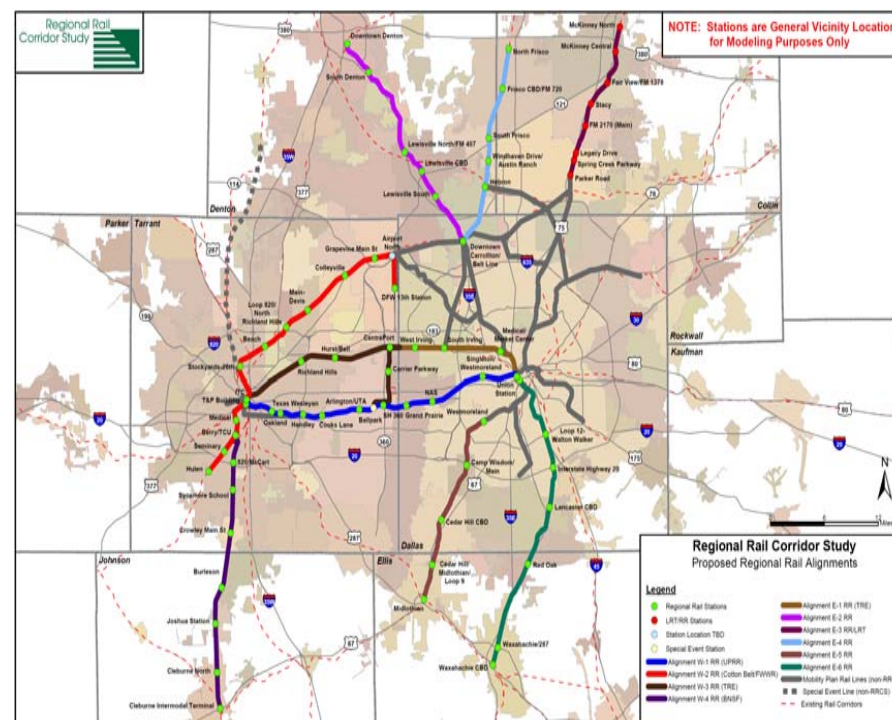
Other Rail

Existing rail passenger service in Fort Worth includes Amtrak, which provides interstate passenger service from Fort Worth to Houston, Oklahoma City, and San Antonio. The Intermodal Transportation Center at Ninth and Jones Streets includes the Amtrak station.

Existing freight rail systems are extensive in Fort Worth, due to the city's role as a rail transportation hub in the last century. Major railroads cross the city with many active rail lines. These rail lines must be accommodated with a crossing method that is safe and efficient. These crossings include grade crossings, roadway closures, and grade-separated structures (bridges). Currently there are 266 grade crossings.

Tower 55, in Downtown Fort Worth, serves as the east-west and north-south intersection for the BNSF and UP railroads, and is identified as a major bottleneck for the movement of freight goods and rail passengers. Tower 55 is the busiest railroad intersection west of the Mississippi River, with over 130 trains passing

Regional Rail Corridor Study



The City of Fort Worth participated with the T in the North Central Texas Council of Governments' Regional Rail Corridor Study. Completed in 2004, the study evaluated the feasibility of implementing passenger rail service along existing rail corridors in the Dallas-Fort Worth Metroplex. (Source: North Central Texas Council of Governments, 2005.)

through daily and causing excessive delays. These delays have a negative impact on economic and business activities, vehicular and pedestrian access, air quality, and future plans for passenger rail expansion. The City is coordinating with the T, NCTCOG, BNSF, UP, and other interested stakeholders to prepare a Freight Bottleneck Study, which will identify the infrastructure necessary to mitigate national freight risks, alleviate current freight congestion, and accommodate the expected growth in national goods movement needs over the next 25 years.

Sustainable Development

Sustainable development, as it relates to transportation, can be defined as:

- Land use and transportation practices that promote economic development while using limited resources in an efficient manner;
- Transportation decision-making based on impacts to land use, congestion, vehicle miles traveled, and the viability of alternative transportation modes; and
- Planning efforts that seek to balance access, finance, mobility, affordability, community cohesion, and environmental quality.

Sustainable development leverages the land use and transportation relationship to improve mobility, enhance air quality, support economic growth, and ensure the financial stability of the transportation system. A successful multi-modal transportation system will support and encourage sustainable development.

Transit-oriented development (TOD) is an important component of sustainable development. TOD refers to a compact urban village that is centered around and coordinated with a transit station in its use and design. The purpose of TOD is to establish land uses and to design structures and public spaces that will encourage residents, workers, and shoppers to drive their cars less and ride mass transit more. In 2006, the T, the City of Fort Worth, and the NCTCOG will work together on a study to develop TOD guidelines for future capital-intensive transit projects in Fort Worth.

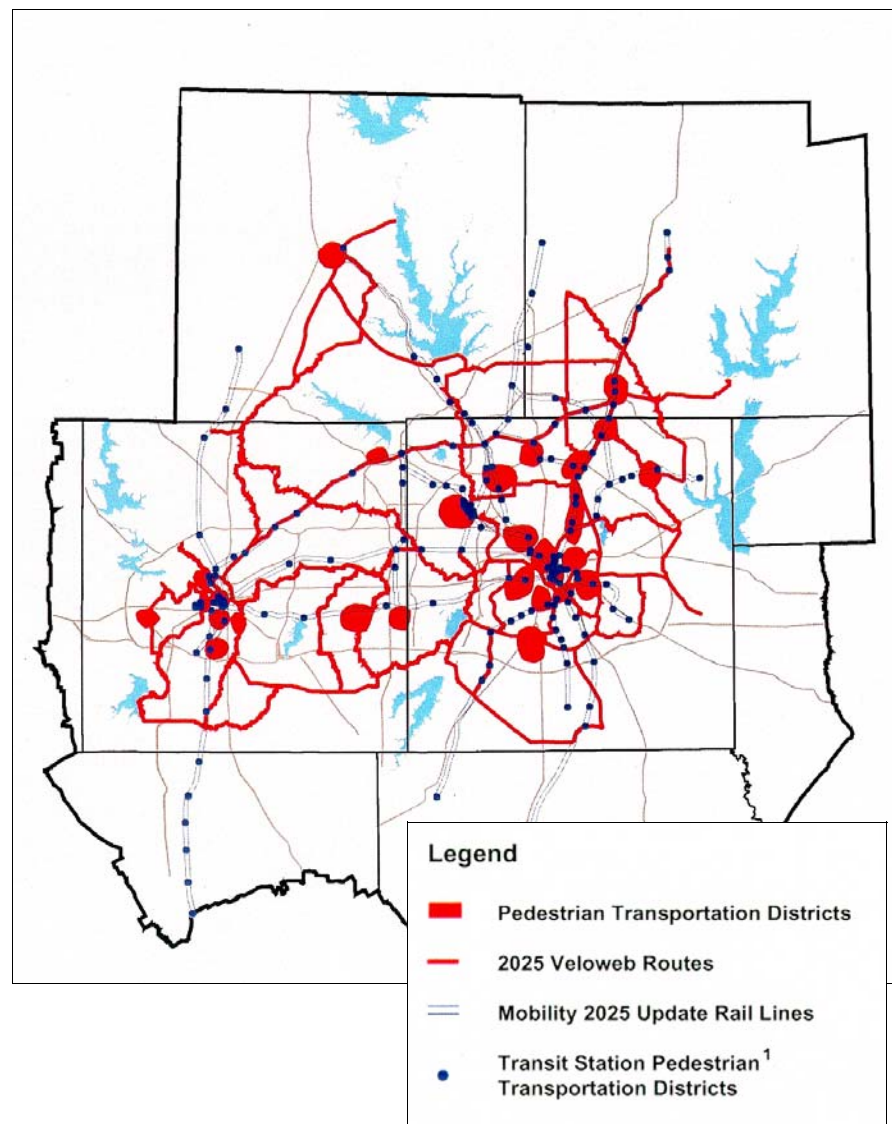
In order to encourage mixed-use and transit-oriented development, the City of Fort Worth adopted two new mixed-use zoning classifications in March 2001. These new categories encourage mixed-use and higher-density developments, especially in designated mixed-use growth centers and urban villages (see Chapter 4: Land Use). Mixed-use zoning significantly reduces parking requirements and provides design standards that are transit- and pedestrian-friendly.

Encouraging mixed-use and transit-oriented development is one way that the City strengthens the relationship between land use and transportation and supports sustainable development. Historically, Fort Worth's transportation system has been based on a system of roadways that primarily serve vehicular traffic and bus transit services provided by the Fort Worth Transportation Authority. The need for federal, state, and local governments to use resources more effectively and to improve air quality has led to the planning of alternative transportation choices, with connections and linkages among various transportation modes.

Intelligent Transportation System

Part of the solution to congestion is to efficiently use existing street facilities. This can be accomplished through the implementation of an intelligent transportation

Pedestrian and Bicycle Facilities



The North Central Texas Council of Governments has set strategies for providing effective, cost efficient, and safe intermodal access for bicyclists and pedestrians. These strategies include integrating future rail corridors with pedestrian districts and bicycle networks. (Source: North Central Texas Council of Governments, 2001.)

system (ITS). ITS uses technology and effective management strategies to manage real-time traffic information and coordinate response activities with local or regional transportation and emergency services. ITS uses various computer and communication technologies to manage traffic and ultimately provide a regional seamless transportation system.

The City has developed an Intelligent Transportation System Plan for Fort Worth. The plan has several elements, including an incident management system to provide timely information to responding agencies such as fire, police, and emergency medical; a coordinated traffic signal system to manage the timing of signals to improve traffic flow; methods to alert motorists of congested areas and offer alternative routes or modes of travel; and a traffic monitoring system to monitor system flow. Fort Worth's ITS plan was developed in coordination with TxDOT's regional ITS plan and in cooperation with NCTCOG.

One important step in implementing the ITS Plan is the development of a Communication Master Plan that identifies how all of the City's ITS devices (traffic signals, traffic cameras, etc.) can be connected to the City's Traffic Management Center. The City completed a Communication Master Plan in 2003, which will guide the improvement and expansion of the communication system in upcoming projects. The T is also working with the City on an ITS test project to allow the T's buses to have priority along some bus route lines which have historically had difficulties staying on schedule. This Transit Signal Priority (TSP) project began in fall 2005.

Bicycle Transportation

Riding a bicycle provides benefits for the cyclist and the community: a cyclist improves their health while reducing automobile congestion and improving air quality. The Trinity Trail Network is an approximately 36-mile multi-use trail system that follows Marine Creek and the Clear Fork and West Fork of the Trinity River. The trails can be used for biking and enjoy high levels of recreational use. However, the trail system requires improved connections with the existing street system to enhance its viability as an alternative transportation route. Crossing freeways and the Trinity River pose particular problems for bicyclists, as do discontinuous street systems. NCTCOG Mobility 2025 designates Downtown as a Bicycle District. This designation has since spawned more interest within the Fort Worth community toward improving cycling conditions citywide.

City representatives worked with NCTCOG on the 1999 Fort Worth Bicycle Blueprint, which recommends over 300 miles of signed, on-street bicycle routes throughout the city, as well as a regional bike system. The City was awarded federal funds for the first 60 miles of the system, and installation should be complete by May 2006. Throughout 2006, City staff will be working on the bicycle element of the Mobility and Air Quality Plan, which will further the initial efforts of the Bicycle Blueprint. To provide bicycle riders greater transportation options, the T provides bicycle racks on all of its fixed route buses. A survey conducted by the T found that over 2,300 cyclists utilize the T's bus bike racks each month, and the City has provided bicycle racks throughout Downtown and in the Medical District. Bicycles

Trinity Trail Network



The Trinity Trail network provides opportunities for hiking, biking, and in-line skating. These trails enjoy high levels of recreational use, and are also included in NCTCOG's regional veloweb, a bicycle commuting and pedestrian network encompassing the Fort Worth/Dallas area. (Source: North Central Texas Council of Governments, 2001.)

are also allowed on the front cars of Trinity Railway Express commuter trains. Additionally, when the street development standards were revised in February 2002, the street design was modified to provide wide outside curb lanes on all arterial roads, facilitating their use as an on-street bicycle network.

Pedestrian Transportation

The City is currently undertaking a number of initiatives in urban villages along commercial corridors that will improve pedestrian circulation and comfort within the villages and to adjacent neighborhoods. Specific projects are discussed in Chapter 10: Economic Development and Chapter 14: Urban Design. The initiatives discussed in these chapters, such as mixed-use zoning, streetscape projects, and crosswalks and wider sidewalks, will encourage increased pedestrian activity throughout the City.

Many neighborhoods and commercial areas need to be connected to the Trinity Trail network, and should develop their own pedestrian networks. The City's Parks and Community Services Department was granted \$1 million from the Federal Highway Administration for the Trinity River Neighborhood Trails Program. A study is currently underway to assess and prioritize possible trail connection routes. Fort Worth neighborhoods have incomplete sidewalk networks, often characterized by broken segments that are overgrown with weeds. Incomplete pedestrian networks can prevent residents from walking to destinations and public transportation; they can also discourage the general public from considering alternative modes of transportation. Strategies and policies to improve the City's pedestrian transportation network will be outlined in the City's Mobility and Air Quality Plan.

Municipal Aviation

Aviation is a logical component of the overall transportation system, serving not only passenger traffic, but also cargo. Four major airports, the regional hub airport located between Dallas and Fort Worth and three municipal airports, serve the Fort Worth area.

Dallas/Fort Worth International Airport (DFW) is a regional hub, jointly owned by the cities of Fort Worth and Dallas. The airport encompasses 18,076 acres, with 7,979 currently used for aviation purposes and 173 dedicated for commercial use. DFW has identified 8,080 acres that are available for future development, and an additional 1,844 acres have been designated for greenbelt areas. The airport provides nonstop service to more than 160 cities worldwide, including over 130 nonstop domestic destinations and over 30 nonstop international destinations. According to Federal Aviation Administration data, there were approximately 2,196 daily takeoffs and landings in 2004. DFW generates approximately \$11.2 billion annually for the region in economic development.

The 1997 DFW Master Plan calls for attracting industrial complexes, retail centers, and corporate offices to this area. DFW is in the initial stages of a \$2.6 billion expansion that includes a consolidated international terminal, an automated people mover system, a new hotel, additional parking facilities, and airfield improvements.

DFW Airport Automated People Mover System



The automated people mover at DFW Airport, Skylink, which opened in May 2005, allows airline passengers greater mobility between airport terminals. Future plans may allow for connection to the commuter rail station at CentrePort. (Source: DFW Airport, 2005.)

DFW Airport International Terminal



The new International Terminal D, which opened in April 2005, allows airline passengers greater convenience in reaching their international destinations. The new terminal contains 120 ticketing positions and a Federal Inspection Facility capable of processing 2,800 passengers per hour. (Source: DFW Airport, 2005.)

DFW estimates that this investment will generate an additional \$34 billion to the North Texas economy and an additional 77,000 new jobs over the next 15 years. The new international terminal, which opened in April 2005, added 23 new gates to the airport.

The new Automated People Mover (APM) System, Skylink, which opened in May 2005, unites DFW's existing Terminals A, B, C, E, and the new International Terminal D, as well as the future Terminal F. DFW Airport, NCTCOG, DART, and the T completed a DFW Airport Rail Planning and Implementation Study that evaluated alternatives to allow an interface between the regional rail system and the airport. The study recommends regional rail service along the Cotton Belt line from Downtown Fort Worth to the airport.

The City of Fort Worth Airport System currently includes three general aviation reliever airports: Alliance Airport, Meacham International Airport, and Spinks Airport. These airports are important to the Metroplex airport system because they handle smaller aircraft, thus relieving DFW of this traffic. All airports are located adjacent to major interstates and major arterials, which allows them to coordinate with other modes of transportation. Additionally, rail transportation is located near Alliance and Meacham Airports.

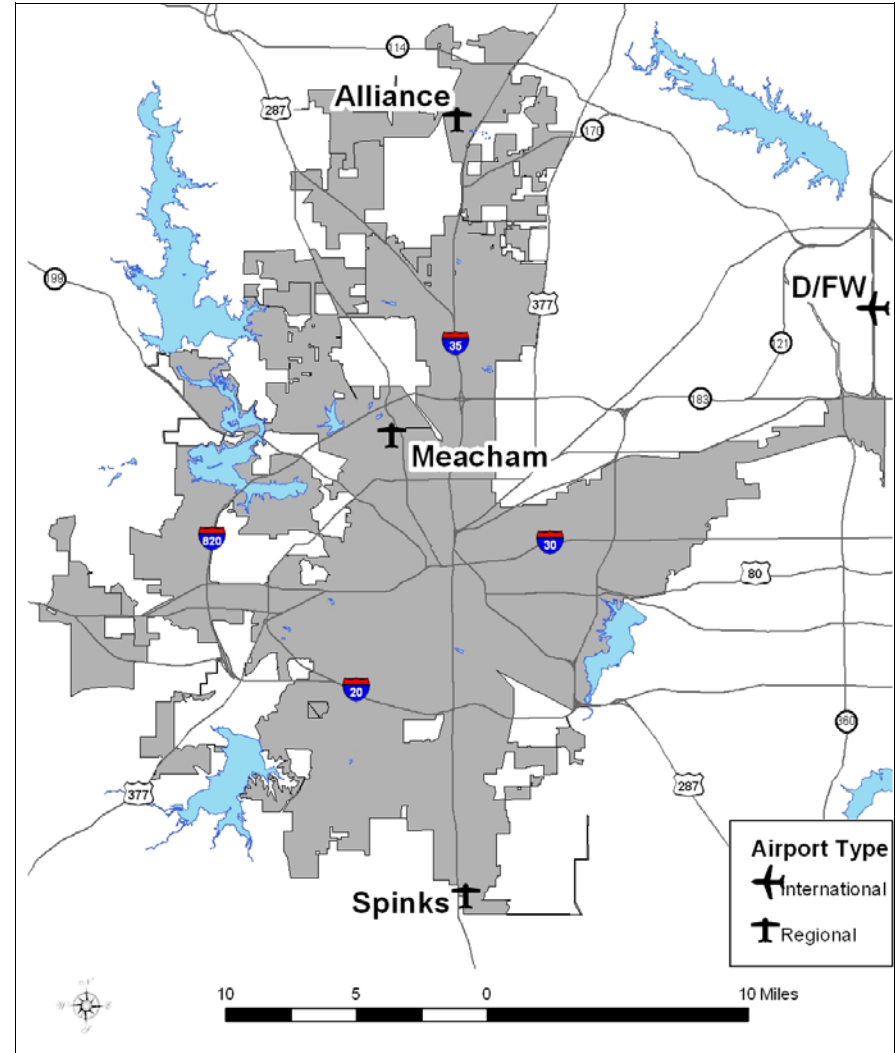
Fort Worth Alliance Airport was conceived by a unique public/private partnership between the Federal Aviation Administration, the City of Fort Worth, and the private sector. In fact, the project name is derived from the commitment of these three partners. Alliance Airport is a public airport that serves the needs of industrial, business and general aviation users rather than commercial airlines. It is owned by the City of Fort Worth and operated by privately held Alliance Air Services.

The Alliance Airport runway extension project is currently underway and will require the relocation of the BNSF railroad and FM 156. The project will provide a platform for cargo-laden aircraft to conduct international flight operations from Alliance Airport to destinations around the world. Cargo operators based at Alliance will be able to serve a global market that will enhance potential revenue for the City of Fort Worth and promote the future development of the Fort Worth Airport System.

To accommodate anticipated airline cargo activity, Alliance Airport, working with the City and Hillwood Development, has constructed a cargo apron and connecting taxiways on the southwest corner of the airport. Hillwood has dedicated approximately 23 acres of land to the City for the cargo apron. Grant funding from the FAA will be used to design and construct the apron. Hillwood also constructed a 99,000 square foot cargo facility, which is available for lease, adjacent to the proposed apron.

The City recently completed Master Plan updates for both Meacham and Spinks Airports. The Texas Department of Transportation has offered the City of Fort Worth a grant for the development of an Airport Systems Plan, which will be completed fiscal year 2006. The data compiled in the Master Plans will be used to

Existing Airports



Dallas-Fort Worth International Airport (DFW), jointly owned by the cities of Fort Worth and Dallas, serves as the regional hub airport for the area, providing non-stop services to over 160 cities worldwide. The three municipal airports, Alliance, Meacham and Spinks, handle smaller aircraft, relieving DFW of this traffic. (Sources: Transportation and Public Works Department, Planning Department, 2004.)

develop the Plan that will include Alliance, Meacham International and Spinks Airports. The Airport Systems Plan will be developed as a stand alone component of the Mobility and Air Quality Plan to address airside issues as they relate to our airports. The Mobility and Air Quality Plan will address the landside connectivity issues. The Airport Systems Plan will help to clearly identify the roles of each airport and allow the City to strategically develop and promote each airport in their respective markets as a system.

Anticipated changes include runway and taxiway improvements for both Meacham and Spinks Airports. These improvements, along with a control tower that was installed at Spinks Airport in 2001, will allow for more corporate traffic. An application designating Meacham Airport as a foreign trade zone was approved in April 2002 by the Foreign Trade Zone Board in Washington, D.C. Foreign trade zones are designed to increase the use of American labor and increase investment in the United States by allowing activity to occur in the U.S. prior to the application of U.S. Customs laws, thereby equalizing the treatment of the activity with similar activities occurring overseas.

Spinks Airport will become increasingly important for economic development in the southern part of Fort Worth. To support local businesses that compete in a global economy, the City will need to consider upgrades to Spinks Airport that allow for freight, cargo, and overnight delivery service in addition to corporate and general aviation. Construction of a permanent control tower at Spinks Airport began in November 2005 and should be completed in June 2006. Once the tower is built, the airport will be eligible to receive FAA funding for staff costs through the Contract Tower Program.

Listed below are characteristics of each of the City's airport facilities.

Alliance Airport

- Located 15 miles north of Downtown Fort Worth
- One 9,600' x 150' runway to be lengthened to 13,000'
- One 8,200' x 150' Visual Flight Rule (VFR) runway
- On-site crash, fire, and rescue facilities operated 24 hours a day
- 24-hour FAA-operated control tower
- Aircraft operation: 300/day
- 700 acres inside boundaries

Meacham Airport

- Located 5 miles north of Downtown Fort Worth
- One 7,501' x 150' runway
- One 4,006' x 75' runway
- One 3,677' x 100' runway
- City owned and operated
- On-site crash, fire, and rescue facilities operated 24 hours a day
- FAA Air Traffic Control Tower
- Aircraft operation: 205/day
- 745 acres inside boundaries
- Automated Flight Service Station operated 24 hours a day

Alliance Airport



The Alliance Airport is the newest addition (1989) to the City of Fort Worth aviation system. It is the first industrial airport in this region, a concept that has proven effective for economic development. Industries are attracted by the convenience of easy access to air transportation, and new subdivisions are being developed to serve the large number of employees working in the Alliance area. (Source: Aviation Department, 1999.)

Meacham Airport



Spinks Airport



The City has adopted master plans for Meacham and Spinks Airports. (Source: Aviation Department, 2005.)

- Instrument landing system
- Spinks Airport
 - Located 15 miles south of Downtown Fort Worth
 - One 6,002' x 100' runway, which can be extended to 7,200 feet
 - One 4,000' x 60' turf runway
 - City-owned and operated Air Traffic Control Tower
 - Aircraft operation: 280/day
 - 822 acres inside boundaries
 - Instrument landing system
 - Automated weather
 - GPS approaches

Heliports

The helicopter can provide a wide variety of important services to any community that integrates this aircraft into its local transportation system. The State of Texas has a total of 445 heliports in use, with 327 sites in non-hospital use, and 118 sites used by emergency medical facilities. Fort Worth has 16 heliports in use, with public heliport sites located at Alliance Airport, Meacham International Airport, and Spinks Airport. Hospitals with existing heliports in Fort Worth include All Saints Episcopal/Cityview, Columbia Plaza Medical Center, and Harris Methodist Hospital.

GOALS AND OBJECTIVES

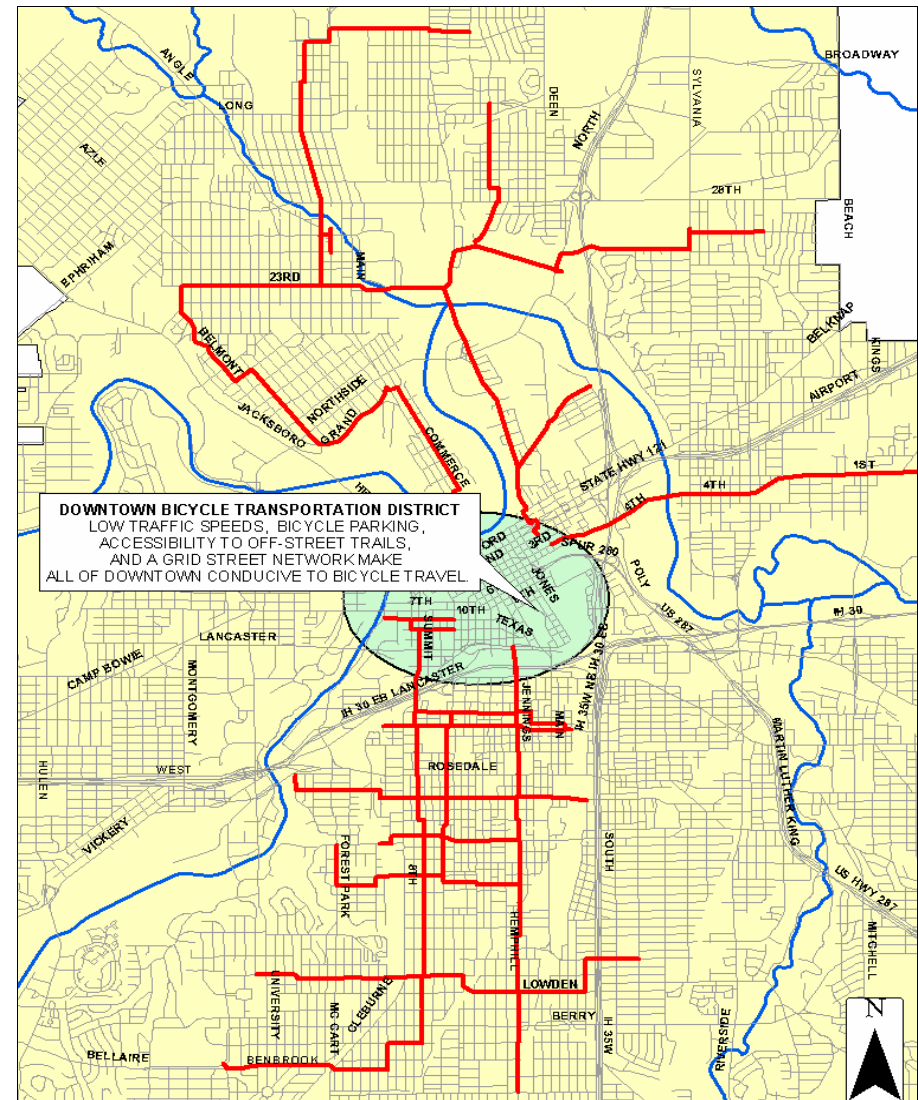
Improve mobility and air quality by providing a multi-modal transportation system.

- Develop a Mobility and Air Quality (MAQ) Plan. Phase I (Transportation Gap Analysis) was completed in June 2004. Complete Phases II and III of the Plan by the end of 2006.
- Work with the T to create a Station Area Plan to identify potential locations for transit-oriented development in 2006.
- Complete implementation of the short-term recommendations of the Downtown Access and Circulation Study by summer 2006.
- Implement 60 miles of on-street bicycle routes by June 2006.
- Prepare the bicycle element of the MAQ Plan by 2006.
- Identify major roadway corridors to accommodate alternative modes of transportation by the end of 2006.

Develop a safe, efficient, and economically sound transportation system.

- Periodically review safety, operation, and construction activities that impact the efficient movement of all modes of transportation.
- Evaluate traffic and pedestrian safety near shopping, schools, and other pedestrian-oriented areas on a continuous basis.
- Create a prioritized list of projects to eliminate bottlenecks and gaps in the arterial system by fall 2006.
- Identify capital improvement projects and possible construction funding sources on an annual basis for inclusion in future capital improvement programs.

Fort Worth Bicycle Blueprint



The Fort Worth Bicycle Blueprint recommends 300 miles of planned on-street routes within the City of Fort Worth. Phase I includes the above 60 miles and will provide for the installation of four route signs per mile and a bike road stencil at regular intervals. (Source: Transportation and Public Works Department, 2004.)

Improve and expand transportation options for low-income residents.

- Work with the T to prepare a plan for accommodating the routes and schedules of “Welfare to Work” persons by the end of 2006.
- Collaborate with the T to identify areas with concentrations of low-income persons and high unemployment rates where car and vanpools would be feasible by the end of 2006.

Lessen the transportation system’s impacts on air quality, the environment and neighborhood quality of life.

- Implement transportation control measures that reduce vehicle use, change traffic flow, and reduce congestion conditions by the end of 2006.
- Conduct corridor studies to evaluate pedestrian and vehicle movements and their impacts on retail, residential, and historic areas by the end of 2006.

POLICIES AND STRATEGIES

The City of Fort Worth uses the following policies and strategies to provide for a multimodal transportation system that supports economic growth and improved air quality.

Current Policies

- Evaluate the impacts of land use and platting decisions on the overall transportation system, and the impacts of transportation decisions on land use.
- Utilize the existing Community Facilities Agreement (CFA) program to develop transportation facilities in conjunction with new private development. The CFA is a contract between the developer and the City for improvements which will eventually be dedicated to the public and consequently maintained by the City. The CFA may include streets, streetlights, street name signs, storm drains, water, sewer, and park facilities.
- Support and encourage appropriate mixed-use zoning and mixed-use development in designated growth centers and urban villages.
- Preserve and maintain the existing street infrastructure.

Recommended Policies

- Promote sustainable development patterns that include greater density at appropriate locations, mixed-use development, public transit, park and ride facilities, and access management (e.g., encouraging shared driveways and limiting the number of curb cuts) to reduce vehicle trips.
- Protect residential and historic areas from the impacts of traffic.
- Encourage appropriate development through the planning and implementation of a multimodal transportation system.
- Emphasize public transportation, bicycle, and pedestrian improvements in designated growth centers and urban villages.
- Manage the City’s airport system as part of the overall transportation system.

Pedestrians at Sundance Square



Facilities that encourage pedestrian movement include continuous sidewalks with crosswalks, landscaping, and lighting. Sundance Square in Downtown Fort Worth has created an environment that encourages walking. (Source: Transportation and Public Works Department, 2001.)

SH 121T: Conceptual Toll Plaza



This conceptual illustration of the preferred walls and railing on proposed SH 121T, Southwest Parkway tollway, reflects the commitment to create a road in a “park-like” environment. The road is planned to traverse the southwest part of Fort Worth. (Source: Transportation and Public Works Department, 2004.)

Strategies

- Identify potential locations for the expansion of rail transit.
- Identify potential locations, especially in designated growth centers and urban villages, for transit-oriented development.
- Facilitate travel between growth centers and urban villages through thoroughfare improvements and public transportation opportunities.
- Participate with the T and NCTCOG on passenger rail and bicycle route studies.
- Continue to work with the T to expand and integrate public transit into the City's transportation system.
- Ensure collaboration among City departments, the T, and the community to address issues concerning coordination among the various transportation modes.
- Promote park-and-ride facilities to encourage the use of public transit.
- Incorporate the various modes of transportation into corridor studies to determine possible alternatives. Studies are to focus on congestion, safety issues, and level of service analysis.
- Seek input from other entities, including schools, cities, counties, the T, NCTCOG, and TxDOT when making land use and transportation decisions.
- Continue the use of a City-based travel forecasting model in conjunction with NCTCOG.
- Implement the Intelligent Transportation System Plan for Fort Worth, in coordination with TxDOT, NCTCOG, the T, and other Metroplex cities.
- Establish links for pedestrians to cross natural barriers, such as rivers and creeks, and man-made obstacles, such as railroads and highways.
- Encourage linkages between neighborhoods and integrate land uses to decrease vehicle miles traveled.
- Provide access for pedestrians from residential areas to shopping, parks, and public buildings.
- Foster roadway designs that decrease noise and improve air quality along major arterials. Modify existing guidelines for traffic impact and assessment studies to allow more flexibility for the different sizes of new developments.
- Include landscaping plans in corridor projects.
- Continue a regular program for counting traffic.
- Establish a tracking program for roadway safety issues.
- Inventory and evaluate truck routes within the city to ensure efficient movement of goods to existing growth centers and other destinations.
- Develop an appropriate strategy to address the maintenance of public alleys.
- Support airport operations that are currently bringing in revenue.

PROGRAMS AND PROJECTS

The following programs and projects assist the City in developing and maintaining a safe, efficient, and sound transportation system.

Programs

- The Safe Pathways Program works to determine the most appropriate locations

Neighborhood Traffic Management Program



The Neighborhood Traffic Management Program provides assistance for residents living on residential streets experiencing high traffic speeds and volumes. (Source: Transportation and Public Works Department, 2001.)

Construction Site Safety



One of the City's primary goals is to develop a safe, efficient, and economically sound transportation system. Construction site safety and efficiency are critical in achieving this goal. (Source: Transportation and Public Works Department, 1998.)

for sidewalks. Primary school routes and streets with pedestrian generating facilities, like parks and shopping areas, are identified as important locations for sidewalks. Neighborhood groups and school officials help to determine walking routes to schools in neighborhoods. Depending on the condition of the sidewalk, funds are allocated for replacing deteriorated sidewalks. Where sidewalks do not exist or where there are breaks in the sidewalk system, citizens can participate in the program by paying 25 percent of the cost of sidewalk construction, while the City pays for 75 percent.

- The School Safety Program coordinates the installation of traffic control devices within the vicinity of schools. School district administrators and parents assist in identifying and designating safe school routes for students. Various traffic control devices are used to alert traffic to school areas, including school speed limit zone signs and flashing lights, school crossing signs, and advance warning signs.
- The Neighborhood Traffic Management Program (NTMP) provides for the installation of traffic calming devices on residential streets that are experiencing high traffic speeds and volumes. An individual or neighborhood association may request to participate in this program. The NTMP looks at traffic issues in the entire neighborhood and not just particular streets and intersections. Once a request is received, City staff work with residents to identify and resolve traffic issues within the neighborhood. A variety of traffic calming and traffic control devices, including speed humps, may be considered.
- The Annual Street Maintenance program assists in the maintenance of all city streets, including asphalt, concrete, and brick surfaces. Streets that are maintained through the program are selected each year based on citizen's requests and staff evaluation of conditions. Some streets outside the city limits are also maintained through jointly funded interlocal agreements between the City and county.
- The Street Management Program coordinates and manages all aspects of street construction, closures, and uses that affect vehicular and/or pedestrian traffic flow. This includes review of traffic control plans for street and sidewalk closures due to special events, construction, and utility work. The program aims to keep city streets and sidewalks open for public use to the extent possible.

Projects

- The City is currently a partner with the North Texas Tollway Authority (NTTA) and the Texas Department of Transportation (TxDOT) in the development of SH 121T, the Southwest Parkway. This major tollway will eventually traverse from I-30 at Forest Park Boulevard through the southwest part of Fort Worth to U.S. Highway 67 in Cleburne. Major improvements to interchanges at I-30 and at I-20/SH 183 will be a part of this project as well.
- In conjunction with the reopening of the T&P Terminal, the T has built a pedestrian tunnel that connects the commuter station to the Vickery Park-and-Ride Lot. The T, in partnership with the City and community groups, is working with a developer to create a transit-oriented development at the Vickery site that will meet their parking demands while offering opportunities for a pedestrian-

Bridge and Roadway Improvements



Improvements to the roadway system are just one part of the City's efforts to enhance its transportation infrastructure. The improvements to the Park Hill Bridge in southwest Fort Worth are an example of how historical details such as decorative light fixtures and railings can add to the aesthetic quality of the City's infrastructure. (Source: Transportation and Public Works Department, 2001.)

Pedestrian Tunnel to T&P Station



A pedestrian tunnel provides a convenient connection for the Trinity Railway Express commuters from the Vickery Boulevard park-and-ride lot to the T&P Terminal. (Source: Planning Department, 2002.)

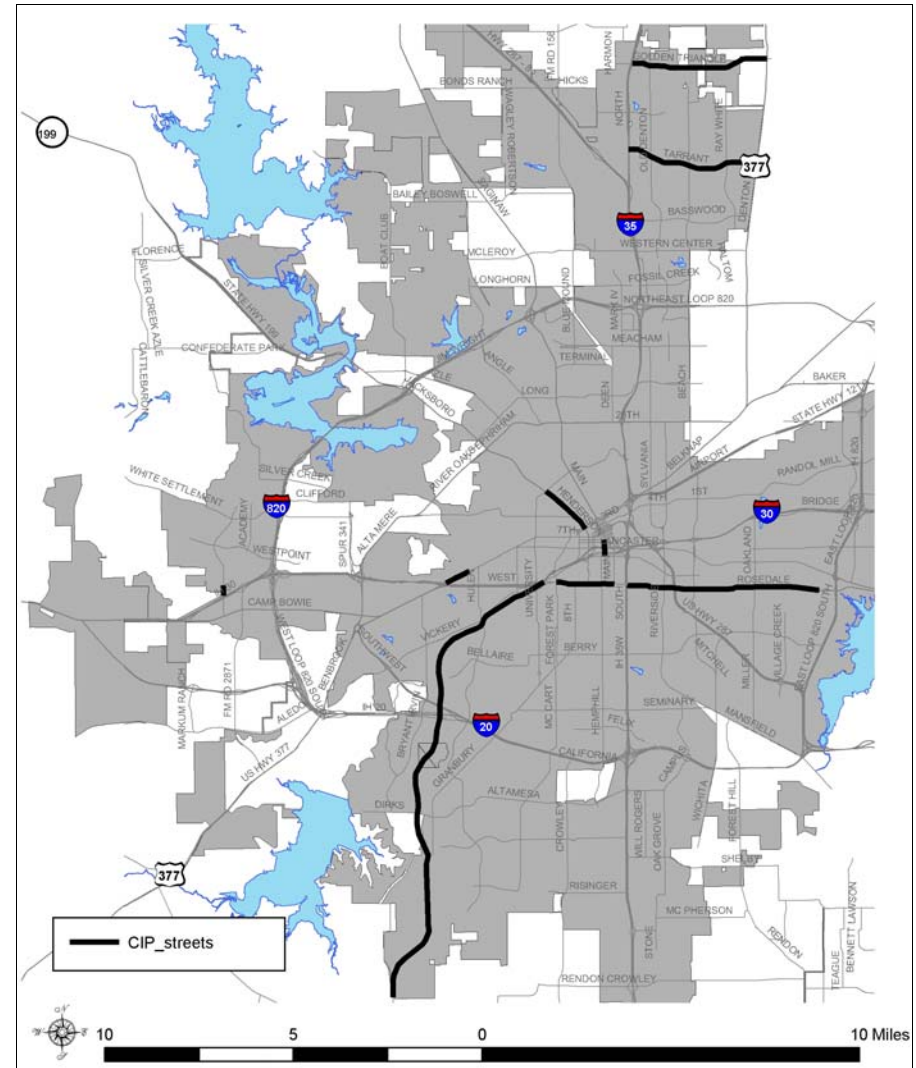
friendly, mixed-use development on the site.

- The City has completed a Downtown Access and Circulation Study, which is looking at both short- and long-term transportation issues in Downtown. The study considered overall circulation in Downtown by addressing such issues as parking, public transportation, vehicular traffic, pedestrian and bicycle safety and mobility, street circulation, and access into and out of Downtown. Twelve of the twenty-three short term project recommendations from the study have been completed. The balance are scheduled for completion by the summer of 2006.
- Two efforts are underway as part of the Communication Master Plan, the first phase of implementation of the City's Intelligent Transportation System (ITS) Plan. The Engineering effort is intended to identify specific communication devices and initiate equipment procurements based on the recommendations in the Communication Master Plan. This project should be complete by the end of 2005. The Deployment Phase I effort is to install cable modems and radio systems to several hundred ITS devices citywide. This will allow the ITS devices to be managed from the City's Traffic Management Center downtown. This effort should be complete by March 2008.
- A number of major investment studies (MIS) are underway in the region. A MIS must identify all reasonable alternative strategies for addressing transportation demand, congestion, or other issues in a corridor. Active studies in the Fort Worth area include: the I-30 MIS from Oakland Blvd to the Dallas County Line, the I-820 Southeast MIS from Meadowbrook Drive to I-20 and on US 287 from I-820 to Reed Street, the I-820 East MIS from SH 121 to Randol Mill Road, the I-35W MIS from Northside Drive to I-820, SH 121/ SH 183 MIS from IH 820 to SH 161, SH 121 (Johnson County) MIS from FM 1187 to US 67, and the I-820 Northeast MIS from I-35W to SH 26. The TxDOT-Fort Worth District is the lead agency for these studies. As a way to seek alternative financing methods, the Texas Transportation Commission now requires mobility projects in any phase of development or construction on the state highway system to be evaluated for their potential for development as toll roads. This includes new location facilities and increased capacity projects such as adding additional main lanes or constructing new main lanes. As a result, the I-35W MIS, I-30 MIS, SH 121/SH 183 MIS, and SH 121 (Johnson County) MIS studies are currently being re-evaluated.

Capital Improvement Projects

Capital improvement projects identified for the next 20 years are listed in Appendix D and Appendix E, along with estimated costs, completion dates, and potential funding sources. The projects are divided into the following categories: regional projects, arterial projects, neighborhood street projects, street lighting projects, traffic signal and intelligent transportation system projects, sidewalk projects, intersection improvement projects, bike projects, bridge reconstruction projects, railroad crossing projects, new development projects, annexed areas projects, aviation projects, DFW Airport projects, and rail projects. Excluding projects for DFW Airport, there are 128 projects identified, totaling \$1.3 billion, over \$600 million of which is not funded. DFW projects are grouped into five categories, with a total of \$2.5 billion to be funded by user fees and revenue bonds.

Selected Roadway Capital Improvement Projects



The Proposed Capital Improvements table in Appendix D describes a variety of transportation projects. Roadway projects include street improvements and bridge projects. Other projects listed in the table (but not mapped) include intelligent transportation systems, bicycle improvements, and aviation, rail, and sidewalk projects. (Sources: Transportation and Public Works Department, Planning Department, 2004.)